

UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 211.001-D3-US)

n	the A	Appl	ication	of:	Fazan	et al.	

Serial No: 10/724,648

Filed: December 1, 2003

Title: Semiconductor Device

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Group Art Unit:

Before Examiner

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 15, 2004

Michileo Sites (person signing this certificate)

Allehako Sitz Signature

FIRST INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Submitted herewith are twenty-three (23) sheets of a modified Form PTO-1449. The documents listed on the modified Form PTO-1449 were provided or cited during the prosecution of parent applications of the above-captioned application are not enclosed herewith. (See 37 C.F.R. §1.98(d) and MPEP 609). Should the Examiner desire an additional copy of the documents previously provided or cited during the prosecution of parent applications, kindly contact the undersigned.

It is respectfully requested that the Examiner make his/her consideration of these references formally of record with the initial Office Action.

Respectfully submitted,

Date: March 15, 2004

Neil A. Steinberg Reg. No. 34,735 650-968-8079 MAR 1 8 2004

Sheet 1 of 23

PTO-1449 (MOCEDIAL)

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ATTY. DOCKET NO. 211.001-D3-US SERIAL NUMBER

10/724,648

APPLICANT(S)

Fazan et al.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT FILING DATE

GROUP ART UNIT

December 1, 2003

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	4,032,947	6/1977	Kesel et al.			
	3,997,799	12/1976	Baker			
	5,448,513	9/1995	Hu et al.			
	4,298,962	11/1981	Hamano et al.			
	3,439,214	4/1969	Kabell			
	6,081,443	6/2000	Morishita			
	6,111,778	8/2000	MacDonald et al.		i	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION TES/NO	
	FR 2 197 494	3/1974	French				
	EP 1 180 799	2/2002	European				
	EP 0 030 856	6/1981	European				
	GB 1 414 228	11/1975	Great Britain				
	EP 0 694 977	1/1996	European				
	JP 02 294076	2/1991	Japanese				
	EP 1 237 193	9/2002	European				
	EP 0 878 804	11/1998	European				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

"The Multistable Charge-Controlled Memory Effect in SOI MOS Transistors at Low Temperatures", Tack et al., IEEE Transactions on Electron Devices, Vol. 37, No. 5, May 1990, pp.1373-1382

EXAMINER

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ATTY. DOCKET NO.

211.001-D3-US

SERIAL NUMBER

10/724,648

Sheet 2 of 23

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

APPLICANT(S)

Fazan et al.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

FILING DATE

GROUP ART UNIT

December 1, 2003

U.S. PATENT DOCUMENTS

U.S. PATENT DOCUMENTS									
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE			
	5,936,265	8/1999	Koga						
-	5,780,906	7/1998	Wu et al.						
	5,144,390	9/1992	Matloubian						
-	5,696,718	12/1997	Hartmann						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	SLATION S/NO
	EP 0 801 427	10/1997	European			
<u> </u>	EP 0 513 923	11/1992	European	·		

 OTHER DOCUMENTS	(Including Author,	Title, Date,	Pertinent Pages,	Etc.)
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Sheet 3 of 23
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APPLICANT(S)

Fazan et al.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

FILING DATE

GROUP ART UNIT

December 1, 2003

U.S. PATENT DOCUMENTS

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EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	4,298,962	11/1981	Hamano et al.			
	5,489,792	2/1996	Hu et al.			
	5,982,003	11/1999	Hu et al.			
<u></u>	6,121,077	9/2000	Hu et al.			
	6,300,649	10/2001	Hu et al.			
	6,518,105	2/2003	Yang et al.			
	2002 0070411	6/2002	Vermandel et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO	
	EP 0 731 972	11/2001	European				
	EP 0 362 961 B1	2/1994	European				
	EP 0 362 961 A1	4.1990	European				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

"A Capacitorless Double-Gate DRAM Cell", Kuo et al., IEEE Electron Device Letters, Vol. 23, No. 6, June 2002, pp.345-347
"A Capacitorless Double-Gate DRAM Cell for High Density Applications", Kuo et al., IEEE IEDM, 2002, pp.843-946
"The Multi-Stable Behaviour of SOI-NMOS Transistors at Low Temperatures", Tack et al., Proc. 1988 SOS/SOI Technology Workshop (Sea Palms Resort, St. Simons Island, GA, Oct. 1988), p.78
"The Multistable Charge-Controlled Memory Effect in SOI MOS Transistors at Low Temperatures", Tack et al., IEEE Transactions on Electron Devices, Vol. 37, No. 5, May 1990, pp.1373-1382
"Mechanisums of Charge Modulation in the Floating Body of Triple-Well nMOSFET Capacitor-less DRAMs", Villaret et al., Proceedings of the INFOS 2003, Insulating Films on Semiconductors, 13th Bi-annual Conference, June 18-20, 2003, Barcelona (Spain), (4 pages)

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Sheet 4 of 23

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ATTY. DOCKET NO.

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10/724,648

APPLICANT(S)

Fazan et al.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

FILING DATE

GROUP ART UNIT

December 1, 2003

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	2001/0055859	12/2001	Yamada et al.		,-	
	2002/0030214	3/2002	Horiguchi			
	2002/0034855	3/2002	Horiguchi et al.			
	2002/0051378	5/2002	Ohsawa			
	2002/0076880	6/2002	Yamada et al.			
	2002/0098643	7/2002	Kawanaka et al.			
	2002/0110018	8/2002	Ohsawa			
	2002/0114191	8/2002	lwata et al.			
-	2002/0130341	9/2002	Horiguchi et al.			
	2002/0160581	10/2002	Watanabe et al.			
	2003/0003608	1/2003	Arikado et al.			
	2003/0015757	1/2003	Ohsawa		-	
	2003/0035324	2/2003	Fujita et al.			
	2003/0057487	3/2003	Yamada et al.			
-	2003/0057490	3/2003	Nagano et al.			
	2003/0112659	6/2003	Ohsawa			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION TES/NO	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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APPLICANT(S)

Fazan et al.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

FILING DATE GROUP ART UNIT December 1, 2003

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	2003/0146488	8/2003	Nagano et al.			
	2003/0151112	8/2003	Yamada et al.			
	6,252,281	6/2001	Yamamoto et al.			
	6,292,424	9/2001	Ohsawa			
	6,351,426	2/2002	Ohsawa			
	6,466,511	10/2002	Fujita et al.			
	6,538,916	3/2003	Ohsawa			
	6,548,848	4/2003	Horiguchi et al.			
	6,567,330	5/2003	Fujita et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE COUNTRY		CLASS	SUB CLASS	 LATION S/NO
	EP 1 191 596	3/2002	European			
	EP 1 233 454	8/2002	European			-
	JP 247735	8/2000	Japanese			-
	JP 274221	9/2000	Japanese			
	JP 389106	12/2000	Japanese			
	JP 180633	6/2001	Japanese			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

"A Memory Using One-Transistor Gain Cell on SOI (FBC) with Performance Suitable for Embedded DRAM's", Ohsawa et al., 2003 Symposium on VLSI Circuits Digest of Technical Papers, June 2003 (4 pages)
"FBC (Floating Body Cell) for Embedded DRAM on SOI, Inoh et al., 2003 Symposium on VLSI Circuits Digest of Technical Papers, June 2003 (2 pages)
"Toshiba's DRAM Cell Piggybacks on SOI Wafer", Y. Hara, EE Times, June 2003

EXAMINER

DATE CONSIDERED

MAR 1 8 2004 3

Sheet 6 of 23

PTO-1449 (Modified)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO. 211.001-D3-US SERIAL NUMBER

10/724,648

APPLICANT(S)

Fazan et al.

December 1, 2003

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

FILING DATE

GROUP ART UNIT

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	4,979,014	12/1990	Hieda et al.		-	-
	5,258,635	11/1993	Nitayama et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	ILATION 9/NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

 Than book and the traction of
"Memory Design Using a One-Transistor Gain Cell on SOI", Ohsawa et al., IEEE Journal of Solid-State Circuits, Vol. 37, No. 11, November 2002, pp.1510-1522
"Opposite Side Floating Gate SOI FLASH Memory Cell", Lin et al., IEEE, March 2000, pp.12-15
"Advanced TFT SRAM Cell Technology Using a Phase-Shift Lithography", Yamanaka et al., IEEE Transactions on Electron Devices, Vol. 42, No. 7, July 1995, pp.1305-1313
"Soft-Error Characteristics in Bipolar Memory Cells with Small Critical Charge", Idei et al., IEEE Transactions on Electron Devices, Vol. 38, No. 11, November 1991, pp.2465-2471
"An SOI 4 Transistors Self-Refresh Ultra-Low-Voltage Memory Cell", Thomas et al., IEEE, March 2003, pp.401-404
"Design of a SOI Memory Cell", Stanojevic et al., IEEE Proc. 21 st International Conference on Microelectronics (MIEL '97), Vol. 1, NIS, Yugoslavis, 14-17 September 1997, pp.297-300
"Effects of Floating Body on Double Polysilicon Partially Depleted SOI Nonvolatile Memory Cell", Chan et al., IEEE Electron Device Letters, Vol. 24, No. 2, February 2003, pp.75-77
"MOSFET Design Simplifies DRAM", P. Fazan, EE Times, May 14, 2002 (3 pages)
"One of Application of SOI Memory Cell – Memory Array", Lončar et al., IEEE Proc. 22 nd International Conference on Microelectronics (MIEL 2000), Vol. 2, NIŠ, Serbia, 14-17 May 2000, pp.455-458
"A SOI Current Memory for Analog Signal Processing at High Temperature", Portmann et al., 1999 IEEE International SOI Conference, Oct. 1999, pp.18-19
"Chip Level Reliability on SOI Embedded Memory", Kim et al., Proceedings 1998 IEEE International SOI Conference, Oct. 1998, pp.135-139

DATE CONSIDERED

DEC 1440 (M-4/C/-4)			ATTY. DOCKET NO. SERIAL NUMBER						
P'	TO-1449 (Modifie	d)		211.001-D3-US	10/724,648				
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	BY APPLICANT			December 1, 2003					
U.S. PATENT DOCUMENTS									
EXAMINER INITIALS	DOCUMENT NUMBER	DATE		NAME	CLASS	SUB CLASS	FIL:		
	5,886,385	3/1999		Arisumi et al.					
	5,929,479	7/1999		Oyama	<u> </u>				
		FOR	EIGN PA	TENT DOCUMENTS					
EXAMINER	DOCUMENT	22.00		COLDIEDA	27.500	SUB CLASS		LATION S/NO	
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				, Title, Date, Pertinen					
,				kage Current in 0.15µ m SC DI Conference, Oct. 1996, p			et al.,		
	"Programming and Erase with Floating-Body for High Density Low Voltage Flash EEPROM Fabricated on SOI Wafers", Chi et al., Proceedings 1995 IEEE International SOI Conference, Oct. 1995, pp.129-130								
				DI DRAM/SRAM Access Tra May 1996, pp.193-195	ansistors",	A. Wei, IE	EE		
	"In-Depth Analysis of Opposite Channel Based Charge Injection in SOI MOSFETs and Related Defect Creation and Annihilation", Sinha et al., Elsevier Science, Microelectronic Engineering 28, 1995, pp.383-386								
	"Dynamic Effects	in SOI MOSFE	ET's", Gi	ffard et al., IEEE, 1991, pp.	160-161				
				Memory Cell for High Perford ted Circuits Conference, Ju			RAMs	",	
"A Novel Pattern Transfer Process for Bonded SOI Giga-bit DRAMs", Lee et al., Proceedings 1996 IEEE International SOI Conference, Oct. 1996, pp.114-115								1996	
"An Experimental 2-bit/Cell Storage DRAM for Macrocell or Memory-on-Logic Application", Furuyama et al., IEEE Journal of Solid-State Circuits, Vol. 24, No. 2, April 1989, pp.388-393									
"High-Performance Embedded SOI DRAM Architecture for the Low-Power Supply", Yamauchi et al., IEEE Journal of Solid-State Circuits, Vol. 35, No. 8, August 2000, pp.1169-1178								et	
100				Itage Range by CMOS/SIMe		ology", Su	ma et	al.,	
	"A Capacitorless	DRAM Cell on	SOI Sul	ostrate", Wann et al., IEEE	IEDM, 199	3, pp.635-	638	, , , , , , , , , , , , , , , , , , ,	
EXAMINER				DATE CONSIDERED					

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	ATTY. DOCKET NO.	SERIAL NUMBER
PTO-1449 (Modified)	211.001-D3-US	10/724,648
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	APPLICANT(S)	
	Fazan et al.	
INFORMATION DISCLOSURE STATEMENT	FILING DATE	GROUP ART UNIT
BY APPLICANT	December 1, 2003	

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	6,391,658	5/2002	Gates et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	Translation Yes/No	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

a a	"The Multistable Charge Controlled Memory Effect in SOI Transistors at Low Temperatures", Tack et al., IEEE Workshop on Low Temperature Electronics, 7-8 Aug. 1989, University of Vermont, Burlington, pp.137-141
	"High-Endurance Ultra-Thin Tunnel Oxide in MONOS Device Structure for Dynamic Memory Application", Wann et al., IEEE Electron Device Letters, Vol. 16, No. 11, November 1995, pp.491-493
	"Hot-Carrier Effects in Thin-Film Fully Depleted SOI MOSFET's", Ma et al., IEEE Electron Device Letters, Vol. 15, No. 6, June 1994, pp.218-220
	"Design Analysis of Thin-Body Silicide Source/Drain Devices", 2001 IEEE International SOI Conference, October 2001, pp.21-22
	"SOI MOSFET on Low Cost SPIMOX Substrate", Iyer et al., IEEE IEDM, September 1998, pp.1001-1004
	"Simulation of Floating Body Effect in SOI Circuits Using BSIM3SOI", Tu et al., Proceedings of Technical Papers (IEEE Cat No. 97 TH 8303), pp.339-342
	"High-Field Transport of Inversion-Layer Electrons and Holes Including Velocity Overshoot", Assaderaghi et al., IEEE Transactions on Electron Devices, Vol. 44, No. 4, April 1997, pp.664-671
	"Dynamic Threshold-Voltage MOSFET (DTMOS) for Ultra-Low Voltage VLSI", Assaderaghi et al., IEEE Transactions on Electron Devices, Vol. 44, No. 3, March 1997, pp.414-422
	"Hot-Carrier-Induced Degradation in Ultra-Thin-Film Fully-Depleted SOI MOSFETs", Yu et al., Solid-State Electronics, Vol. 39, No. 12, 1996, pp.1791-1794
	"Hot-Carrier Effect in Ultra-Thin-Film (UTF) Fully-Depleted SOI MOSFET's, Yu et al., 54 th Annual Device Research Conference Digest (Cat. No. 96 TH 8193), pp.22-23

EXAMINER	DATE CONSIDERED
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Sheet 9 of 23

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EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS		S/NO	
	OTHER DOCUMENT	S (Including	Author, Title, Date, Pertine	nt Pages,	Etc.)			
			imensional Scaling with Short Chan , 1995, pp.631-634	nel, Narrov	v Width an	d Ultr	a-thin	
			SOI) MOSFET for Ultra Low Voltage Power Electronics, pp.58-59	Operation	", Assader	aghi e	→t al.,	
			ully-Depleted SOI MOSFET by a Suernational SOI Conference, Oct. 199			od", Yı	u et	
	"A Capacitorless IEDM, Feb. 2002		DRAM Cell Design for High Density	Application	ns", Kuo et	al., IE	EEE	
	"A Dynamic Threset al., IEEE IEDM		MOSFET (DTMOS) for Ultra-Low V 9-812	oltage Ope	ration", As	sade	aghi	
			OSFET (DTMOS) for Ultra-Low Volt Devices, Vol. 44, No. 3, March 199			ıghi et	al.,	
	"A Capacitorless DRAM Cell on SOI Substrate", Wann et al., IEEE IEDM 1993, pp.635-638							
"Studying the Impact of Gate Tunneling on Dynamic Behaviors of Partially-Depleted SOI CMOS Using BSIMPD", Su et al., IEEE Proceedings of the International Symposium on Quality Electron Design (ISQED '02), April 2002 (5 pages)								
	MOS Structures b	y the Charge	Back Si-SiO₂ Interfaces in Thick- an -Pumping Technique", Wouters et a 9, September 1989, pp.1746-1750				lator	
	"An Analytical Mo Electronics Vol. 3		sis Structure in SOI MOS Devices", D, pp.357-364	Tack et al.,	Solid-Sta	te		

EXAMINER	DATE CONSIDERED

Sheet 10 of 23

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Pi	EXAMINER INITIALS DOCUMENT NUMBER EXAMINER DOCUMENT DATE OTHER DOCUMENTS (Including "A Long Data Retention SOI DF Trans. Electron., Vol. E80-C, No. "A Simple 1-Transistor Capacitic Fazan et al., IEEE 2002 Custon "High-Endurance Ultra-Thin Tur Application", Wann et al., IEEE 493 "Capacitor-Less 1-Transistor Di 2002, pp.10-13 "Memory Design Using a One-T State Circuits, Vol. 37, No. 11, "SOI (Silicon-on-Insulator) for F Phys. Vol. 33 (1994) pp.365-36 "Source-Bias Dependent Charg Memory Cell Transistors", Sim 3B, March 1998	211.001-D3-US	03-US 10/724,648				
			APPLICANT(S)				
PATEN	T AND TRADEMARK	OFFICE	Fazan et al.				
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				n", Tomishi	ma et al.,	IEICE	
			or-Less Memory Cell for High Perform Integrated Circuits Conference, Ju				1
	Application", Wa		nnel Oxide in MONOS Device Struc Electron Device Letters, Vol. 16, No.				191-
		1-Transistor D	RAM", Fazan et al., 2002 IEEE Inter	national S	OI Confer	ence, (Oct.
			Transistor Gain Cell on SOI", Ohsaw November 2002, pp.1510-1522	∕a et al., IE	EE Journa	al of So	olid-
			High Speed Ultra Large Scale Integr 59, Part 1, No. 1B, January 1994	ation", C. F	lu, Jpn. J.	Appl.	
	Memory Cell Trail		ge Accumulation in P+ -Poly Gate Set al., Jpn. J. Appl. Phys. Vol. 37 (19				
	by Ar-Ion Implant	tation into Sou	lar Action in Ultra-Thin-Film Fully-De ırce/Drain Regions", Ohno et al., IEE 998, pp.1071-1076				
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Sheet 11 of 23

		ATTY. DOCKET NO. SERIAL NUMBER					
Pī	ro-1449 (Modifie	d)	211.001-D3-US		10/724,6	48	
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	OTHER DOCUMENT	S (Including	Author, Title, Date, Pertiner	nt Pages,	Etc.)		
			IOS Transistors Fabricated in Zone- tron Device Letters, Vol. EDL-4, No				
	"Silicon-On-Insula No. 6, June 1983		ansistors", Rodder et al., IEEE Elec	tron Device	e Letters, \	∕ol. El	DL-4,
		licon", Malhi et	ensional Integration of MOSFET's in t al., IEEE Transactions on Electron				2,
	Density Application	ons", Villaret e	ed as a Capacitor-Less DRAM Cell f t al., Handout at Proceedings of 200 to, Japan (2 pages)				High
"Mechanisms of Charge Modulation in the Floating Body of Triple-Well NMOSFET Capacitor-les DRAMs", Villaret et al., Handout at Proceedings of INFOS 2003, June 18-20, 2003, Barcelona, Spain (2 pages)						less ì,	
_			chnology", M. Yamawaki, Proceedin Circuits Technology, 1998, Vol. 55		Symposiun	n on	
		eport, Institute	urn-off Current in Partially Depleted of Electronics, Information and Cor 98), pp.27-34				
I .							

EXAMINER	DATE CONSIDERED
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	DEPARTMENT OF COMM I AND TRADEMARK OF		APPLICANT(S)						
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EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FIL:			
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		FORE	IGN PATENT DOCUMENTS		 ,				
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANS: YES	LATIO		
	EP 1 288 955 A2	3/2003	European						
	EP 1 280 205 A2	1/2003	European				-		
	EP 1 253 634 A2	10/2002	European						
	EP 1 241 708 A2	9/2002	European						
	EP 1 209 747 A2	5/2002	European		,				
	EP 1 204 147 A1	5/2002	European						
	EP 1 204 146 A1	5/2002	European						
	EP 1 179 850 A2	2/2002	European						
	EP 1 162 744 A1	12/2001	European						
	EP 1 162 663 A2	12/2001	European						
	EP 1 073 121 A2	1/2001	European						
·	EP 0 993 037 A2	4/2000	European						
	EP 0 980 101 A2	2/2000	European						
	EP 0 971 360 A1	1/2000	European						
	OTHER DOCUMENTS	(Including	Author, Title, Date, Pertin	nent Pages,	Etc.)				
i							_		

						t 13	of 2
Pi	rO-1449 (Modified)		ATTY. DOCKET NO.	SERIAL			
			211.001-D3-US		10/724,64	48	
	DEPARTMENT OF COMM I AND TRADEMARK OF		APPLICANT (S)				
5555-2515			Fazan et al.				
INFORMAT	ION DISCLOSURE STA	ATEMENT	FILING DATE	GROUP A	RT UNIT		
	BY APPLICANT		December 1, 2003			_	
		U. :	S. PATENT DOCUMENTS				
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FIL:	
		FORE	GIGN PATENT DOCUMENTS			1	
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS		LATION I/NO
	EP 0 951 072 A1	10/1999	European				
	EP 0 933 820 A1	8/1999	European				
	EP 0 924 766 A2	6/1999	European				
	EP 0 920 059 A2	6/1999	European				
	EP 0 869 511 A2	10/1998	European				
	EP 0 860 878 A2	8/1998	European				
	EP 0 858 109 A2	8/1998	European				
	EP 0 844 671 B1	11/2002	European				
	EP 0 836 194 B1	5/2000	European				

EP 0 727 822 B1	8/1999	European		
 OTHER DOCUMENTS	(Including	Author, Title, Date, Per	rtinent Pages,	Etc.)
	· -			

European

European

European

European

EP 0 788 165 A2

EP 0 744 772 B1

EP 0 739 097 A2

EP 0 731 972 B1

8/1997

8/2002

10/1996

11/2001

EXAMINER	DATE CONSIDERED
	<u> </u>

			ATTY.	DOCKET NO.	SERIAL		t 14	of 2
PTO-1449 (Modified)			211.001-D3-US	10/724,648				
	DEPARTMENT OF COM		APPLICANT(S)					
PATEN	T AND TRADEMARK O	FICE		Fazan et al.				
INFORMAT	TION DISCLOSURE ST	ATEMENT	FILIN	G DATE	GROUP A	RT UNIT		
	BY APPLICANT			December 1, 2003				
		υ.	S. PATE	NT DOCUMENTS				
EXAMINER	DOCUMENT	DATE		NAME		SUB	FIL	ING
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EXAMINER	DOCUMENT		T			SUB	TRANS YE:	LATION S/NO
INITIALS	NUMBER	DATE	-	COUNTRY	CLASS	CLASS		
	EP 0 727 820 A1	8/1996		European				
	EP 0 726 601 B1	9/2001		European				
	EP 0 725 402 B1	9/2002		European				
	EP 0 689 252 B1	8/2000		European		1		
· · · · · · · · · · · · · · · · · · ·	EP 0 682 370 B1	9/2000		European		:		
	EP 0 642 173 B1	7/1999		European			;	
	EP 0 642 173 A1	3/1995		European				
	EP 0 606 758 B1	9/2000		European		_		
<u> </u>	EP 0 601 590 B1	4/2000		European				
-	EP 0 599 506 A1	6/1994		European				
	EP 0 599 388 B1	8/2000		European				
	EP 0 579 566 A2	1/1994		European				
	EP 0 564 204 A2	10/1993		European				
	EP 0 537 677 B1	8/1998		European				
	OTHER DOCUMENTS	(Including	Author	, Title, Date, Pertin	ent Pages,	Etc.)		
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	<u> </u>					 		
EXAMINER				DATE CONSIDERED		-		

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P	TO-1449 (Modified)		ATTY. DOCKET NO.	SERIAL		
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	T AND TRADEMARK OF		APPLICANT(S)			
			Fazan et al.			
INFORMAT	'ION DISCLOSURE ST BY APPLICANT	ATEMENT	FILING DATE December 1, 2003	GROUP A	RT UNIT	
		υ.:	S. PATENT DOCUMENTS			
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
		FORE	IGN PATENT DOCUMENTS			
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION OK/EST
	EP 0 510 607 B1	2/1998	European			
-	EP 0 465 961 B1	8/1995	European			
-	EP 0 366 882 B1	5/1995	European			
	EP 0 362 961 B1	2/1994	European			
	EP 0 359 551 B1	12/1994	European			
	EP 0 354 348 A2	2/1990	European			
	EP 0 350 057 B1	1/1990	European			
	EP 0 333 426 B1	7/1996	European			
	EP 0 300 157 B1	5/1993	European			
	EP 0 253 631 B1	4/1992	European			
	EP 0 245 515 B1	4/1997	European			

	OTHER DOCUMENTS	(Including Author,	Title, Date,	Pertinent	Pages,	Etc.)
-						

European

European

European

8/1991

3/1991

11/1991

EP 0 207 619 B1

EP 0 202 515 B1

EP 0 175 378 B1

EXAMINER	DATE CONSIDERED

	ATTY. DOCKET NO.	SERIAL NUMBER			
PTO-1449 (Modified)	211.001-D3-US	10/724,648			
U.S. DEPARTMENT OF COMMERCE	APPLICANT(S)				
PATENT AND TRADEMARK OFFICE	Fazan et al.				
INFORMATION DISCLOSURE STATEMENT	FILING DATE	GROUP ART UNIT			
BY APPLICANT	December 1, 2003				

U.S. PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	2002/0036322	3/2002	Divakauni et al.			
	5,446,299	8/1995	Acovic et al.			
	5,568,356	10/1996	Schwartz			
	5,627,092	5/1997	Alsmeier et al.			
	5,631,186	5/1997	Park et al.			
	5,740,099	4/1998	Tanigawa			
	5,877,978	3/1999	Morishita et al.			
	5,930,648	7/1999	Yang			
	5,939,745	8/1999	Park et al.			
	5,943,258	8/1999	Houston et al.			
	5,968,840	10/1999	Park et al.			
	5,977,578	11/1999	Tang			
	6,018,172	1/2000	Hidada et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	LATION 9/NO
					_	

OTHER DOCUMENTS	(Including	Author,	Title,	Date,	Pertinent	Pages,	Etc.)

EXAMINER	DATE CONSIDERED

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P	Modified (Modified)	211.001-D3-US		10/724,64	1 8	
	DEPARTMENT OF COM		APPLICANT(S)				
PATENT AND TRADEMARK OFFICE			Fazan et al.				
INFORMAT	ION DISCLOSURE ST	PATEMENT	FILING DATE	GROUP A	RT UNIT		
	BY APPLICANT		December 1, 2003	December 1, 2003			
		υ.	S. PATENT DOCUMENTS				
EXAMINER INITIALS	1		NAME	CLASS	SUB CLASS	FILING DATE	
	6,297,090	10/2001	Kim				
	6,384,445	5/2002	Hidaka et al.				
	6,590,258	7/2003	Divakauni et al.				
		FOR	EIGN PATENT DOCUMENTS				
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION TES/NO	
	JP 62 272561	11/1987	Japanese				
	JP 8 274277	10/1996	Japanese				
	JP 9 82912	3/1997	Japanese				
	OTHER DOCUMENTS	(Including	Author, Title, Date, Pertin	ent Pages,	Etc.)	L	

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		Sheet 18 of	2
4440 (M. 1161 A)	ATTY, DOCKET NO.	SERIAL NUMBER	
PTO-1449 (Modified)	211.001-D3-US	10/724,648	
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	APPLICANT(S)		
PATENT AND TRADEMARK OFFICE	Fazan et al.		
INFORMATION DISCLOSURE STATEMENT	FILING DATE	GROUP ART UNIT	_
BY APPLICANT	December 1, 2003		
U	.S. PATENT DOCUMENTS		

EXAMINER INITIALS	DOCUMENT DATE NAME NUMBER		CLASS	SUB CLASS	FILING DATE	
	2002/0064913	5/2002	Adkisson et al.			
	2002/0072155	6/2002	Liu et al.			
	2002/0086463	7/2002	Houston et al.			
	2002/0089038	7/2002	Ning			
	2002/0180069	12/2002	Houston			
	2003/0102497	6/2003	Fried et al.			
	2003/0123279	7/2003	Aipperspach et al.			
	4,791,610	12/1988	Takemae			
	5,388,068	2/1995	Ghoshal et al.			
	5,446,299	8/1995	Acovic et al.			
	5,466,625	11/1995	Hsieh et al.			
	5,528,062	6/1996	Hsieh et al.			
	5,593,912	1/1997	Rajeevakumar			
	5,606,188	2/1997	Bronner et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION TES/NO	
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EXAMINER	DATE CONSIDERED

ATTY. DOCKET NO.	SERIAL NUMBER			
211.001-D3-US	10/724,648			
APPLICANT(S)				
Fazan et al.				
FILING DATE	GROUP ART UNIT			
December 1, 2003				
	211.001-D3-US APPLICANT(S) Fazan et al. FILING DATE			

U.S. PATENT DOCUMENTS

EXAMINER INITIALS			NAME	CLASS	SUB CLASS	FILING DATE
	5,778,243	7/1998	Aipperspach et al.			
	5,784,311	7/1998	Assaderaghi et al.			
	5,811,283	9/1998	Sun			
	5,886,376	3/1999	Acovic et al.			
	5,897,351	4/1999	Forbes			
	5,943,258	8/1999	Houston et al.			
	5,943,581	8/1999	Lu et al.			
	5,960,265	9/1999	Acovic et al.			
	6,096,598	8/2000	Furukawa et al.			
	6,097,056	8/2000	Hsu et al.			
	6,157,216	12/2000	Lattimore et al.			
	6,171,923	1/2001	Chi et al.			
	6,177,300	1/2001	Houston et al.			
	6,177,708	1/2001	Kuang et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION TES/NO	

OTHER	DOCUMENTS	(Including	Author,	Title,	Date,	Pertinent	Pages,	Etc.)
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EXAMINER	DATE CONSIDERED

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	PT	O-1449 (Modified	d)	ATTY. DOCKET NO.	SERIAL 1			
		• • • • • • • • • • • • • • • • • • • •		211.001-D3-US		10/724,64	1 8	
	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			APPLICANT(S)				
				Fazan et al.				
	TNFORMATI	ION DISCLOSURE S	*TATEMENT	FILING DATE	GROUP A	RT UNIT		
	2112 014 2	BY APPLICANT		December 1, 2003				
_			U	.S. PATENT DOCUMENTS				
	EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE	;

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	6,214,694	4/2001	Leobandung et al.			
	6,225,158	5/2001	Furukawa et al.			
	6,245,613	6/2001	Hsu et al.			
	6,297,090	10/2001	Kim			
	6,320,227	11/2001	Lee et al.			
	6,333,532	12/2001	Davari et al.			
	6,350,653	2/2002	Adkisson et al.			
	6,403,435	6/2002	Kang et al.			
	6,424,011	7/2002	Assaderaghi et al.			
	6,424,016	7/2002	Houston			
	6,429,477	8/2002	Mandelman et al.			
	6,440,872	8/2002	Mandelman et al.			
	6,441,435	8/2002	Chan			
	6,441,436	8/2002	Wu et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	Translation TES/NO	

 OTHER DOCUMENTS	(Including Aut	hor, Title,	Date, Perti	nent Pages,	Etc.)
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EXAMINER	DATE CONSIDERED

					Sheet	t_21 of _2
סידים	O-1449 (Modified		ATTY. DOCKET NO.	SERIAL 1	NUMBER	
			211.001-D3-US		10/724,64	18
	EPARTMENT OF COM AND TRADEMARK O		APPLICANT(S)	···•		
			Fazan et al.			
INFORMAT	ION DISCLOSURE S	TATEMENT	FILING DATE	GROUP A	RT UNIT	
	BY APPLICANT		December 1, 2003			
	-	υ.	S. PATENT DOCUMENTS			
EXAMINER	DOCUMENT	DATE	NAME		SUB	FILING
INITIALS	NUMBER			CLASS	CLASS	DATE
	6,492,211	12/2002	Divakaruni et al.			
	6,544,837	4/2003	Divakaruni et al.			
-	6,549,450	4/2003	Hsu et al.			
· · · · · · · · · · · · · · · · · · ·	6,552,398	4/2003	Hsu et al.			
	6,556,477	4/2003	Hsu et al.			
	6,566,177	5/2003	Radens et al.			
	6,590,258	7/2003	Divakauni et al.			
·	6,590,259	7/2003	Adkisson et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSI Yes	
	JP 11 87649	3/1999	Japanese				

 OTHER DOCUMENTS	(Including	Author,	Title,	Date,	Pertinent	Pages,	Etc.)
							_

EXAMINER	DATE CONSIDERED	

	ATTY. DOCKET NO.	SERIAL NUMBER
PTO-1449 (Modified)	211.001-D3-US	10/724,648
U.S. DEPARTMENT OF COMMERCE	APPLICANT(S)	<u> </u>
PATENT AND TRADEMARK OFFICE	Fazan et al.	
INFORMATION DISCLOSURE STATEMENT	FILING DATE	GROUP ART UNIT
BY APPLICANT	December 1, 2003	,
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II S PATENT DOCUMENTS

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EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	6,650,565	11/2003	Ohsawa			
	6,632,723	10/2003	Watanabe et al.			
	6,621,725	9/2003	Ohsawa			
	6,617,651	9/2003	Ohsawa			
	6,531,754	3/2003	Nagano et al.			
	2002/0036322	3/2002	Divakauni et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO	
	2003-243528	8/2003	Japanese				
	2002-94027	3/2002	Japanese				
-	2002-176154	6/2002	Japanese				
	2002-246571	8/2002	Japanese				
	2002-329795	11/2002	Japanese				
	2002-343886	11/2002	Japanese				
-	2002-353080	12/2002	Japanese				
	2003-31693	1/2003	Japanese				
	2003-86712	3/2003	Japanese				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	DRAM Design Using the Taper-Isolated Dynamic RAM Cell, Leiss et al., IEEE Transactions on Electron Devices, Vol. ED-29, No. 4, April 1982, pp707-714

EXAMINER	DATE CONSIDERED	

			ATTY. DOCKET NO.	SERIAL		t 23 of	
PTO-1449 (Modified)				10/724,6	48		
	DEPARTMENT OF COM		APPLICANT(S)				
PATEN	T AND TRADEMARK OF	FICE	Fazan et al.				
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		ATEMENT	FILING DATE GROUP ART UNIT				
		December 1, 2003					
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EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO	
	† · · · · · · · · · · · · · · · · · · ·	 					
	2003-100641	4/2003	Japanese				
	2003-100641	4/2003	Japanese				
	2003-100900	4/2003	Japanese				
	2003-100900	4/2003 5/2003	Japanese Japanese				
	2003-100900 2003-132682 2003-203967	4/2003 5/2003 7/2003	Japanese Japanese Japanese				
	2003-100900 2003-132682 2003-203967 2003-243528	4/2003 5/2003 7/2003 8/2003	Japanese Japanese Japanese Japanese				
	2003-100900 2003-132682 2003-203967 2003-243528 09046688	4/2003 5/2003 7/2003 8/2003 2/1997	Japanese Japanese Japanese Japanese Japanese				
	2003-100900 2003-132682 2003-203967 2003-243528 09046688 JP 8-213624 JP 3-171768	4/2003 5/2003 7/2003 8/2003 2/1997 8/1996 7/1991	Japanese Japanese Japanese Japanese Japanese Japanese Japanese	ent Pages,	Etc.)		

	EXAMINER	DATE CONSIDERED
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